Claims Listing

1. (currently amended) A compound according to Formula 1

$$\begin{array}{c|c} R_1 & O & X \\ \hline R_2 & N & R_4 \end{array}$$

Formula 1

wherein

Z is NH or O;

X is selected from OH, NH₂, OR, NHR, NRR, SH, or SR;

R₁ and R₂ are independently selected from [[H,]]-substituted or unsubstituted alkyl, alkenyl, alkynyl, aryl, fused aryl, heterocycle or fused heterocycle, and R₁ and R₂ together with the carbon atoms to which they are attached may form a 5- or 6-membered ring;

R₃ is substituted or unsubstituted alkyl, alkenyl, alkynyl, aryl, fused aryl, heterocycle or fused heterocycle; and

wherein R and R₄ are independently H, <u>or</u> substituted or unsubstituted alkyl, alkenyl, alkynyl, aryl, fused aryl, heterocycle or fused heterocycle;

wherein each heterocycle is independently a 5- or 6-membered heterocyclic ring containing at least one atom of S, N, or O,

and wherein substituted groups are substituted with one or more substituents selected

from the group consisting of NH₂, OH, SH, NC, C(O)OR, aryl, alkyl, alkenyl,
alkynyl, F, Cl, Br, NHCOR, NHCONH₂, NHCSNH₂, OCH₂COOH,
OCH₂CONH₂, OCH₂CONHR, OC(Me)₂COOH, OC(Me)₂CONH₂,
NHCH₂COOH, NHCH₂CONH₂, NHSO₂R, NHSO₂CF₃, PO₃H, SO₃H,
(CH₂)₁₋₃COOH, CH=CHCOOH, O(CH₂)₁₋₄COOH, NHCOCH₂CH(OH)COOH,
CH(COOH)₂, CH(PO₃H)₂, OCH₂CH₂CH₂COOH, and NHCHO.

2. (currently amended) A compound according to Formula 2

$$\begin{array}{c|c} R_1 & X & X \\ R_2 & N & R_4 \end{array}$$

Formula 2

wherein Z is NH or O;

- X is CONH₂, COOR, CONHR, CONRR, heterocycle, [[R,]] SO₃H, P(O₃H), CH(COOH)₂, CH(PO₃H)₂, tetrazole, or triazole;
- R₁ and R₂ are independently selected from [[H,]] substituted or unsubstituted alkyl, alkenyl, alkynyl, aryl, fused aryl, heterocycle or fused heterocycle, and R₁ and R₂ together with the carbon atoms to which they are attached may form a 5- or 6-membered ring;
- R₃ is substituted or unsubstituted alkyl, alkenyl, alkynyl, aryl, fused aryl, heterocycle or fused heterocycle; and
- wherein R and R₄ are independently H, <u>or</u> substituted or unsubstituted alkyl, alkenyl, alkynyl, aryl, fused aryl, heterocycle or fused heterocycle;
- wherein each heterocycle is independently a 5- or 6-membered heterocyclic ring containing at least one atom of S, N, or O,
- and wherein substituted groups are substituted with one or more substituents selected from the group consisting of NH₂, OH, SH, NC, C(O)OR, aryl, alkyl, alkenyl, alkynyl, F, Cl, Br, NHCOR, NHCONH₂, NHCSNH₂, OCH₂COOH, OC(M₂COOH, OC(M₂COOH, OC(M₂COOH), OC(M₂COOH), NHCH₂COOH, NHCH₂COOH, NHSO₂R, NHSO₂CF₃, PO₃H, SO₃H, (CH₂)₁₋₃COOH, CH=CHCOOH, O(CH₂)₁₋₄COOH, NHCOCH₂CH(OH)COOH, CH(COOH)₂, CH(PO₃H)₂, OCH₂CH₂CH₂COOH, and NHCHO.

10/826,439

3. (currently amended) A compound according to Formula 3,

Formula 3

wherein X is NH₂, OR, NHR, NRR, heterocycle, or R;

R₁ and R₂ are independently selected from H, substituted or unsubstituted alkyl, alkenyl, alkynyl, aryl, fused aryl, heterocycle or fused heterocycle, and R₁ and R₂ together with the carbon atoms to which they are attached may form a 5- or 6-membered ring;

R₃ is substituted or unsubstituted alkyl, alkenyl, alkynyl, aryl, fused aryl, heterocycle or fused heterocycle; and

wherein R and R₄ are independently H, <u>or</u> substituted or unsubstituted alkyl, alkenyl, alkynyl, aryl, fused aryl, heterocycle or fused heterocycle;

wherein each heterocycle is independently a 5- or 6-membered heterocyclic ring containing at least one atom of S, N, or O,

and wherein substituted groups are substituted with one or more substituents selected

from the group consisting of NH₂, OH, SH, NC, C(O)OR, aryl, alkyl, alkenyl,
alkynyl, F, Cl, Br, NHCOR, NHCONH₂, NHCSNH₂, OCH₂COOH,
OCH₂CONH₂, OCH₂CONHR, OC(Me)₂COOH, OC(Me)₂CONH₂,
NHCH₂COOH, NHCH₂CONH₂, NHSO₂R, NHSO₂CF₃, PO₃H, SO₃H,
(CH₂)₁₋₃COOH, CH=CHCOOH, O(CH₂)₁₋₄COOH, NHCOCH₂CH(OH)COOH,
CH(COOH)₂, CH(PO₃H)₂, OCH₂CH₂CH₂COOH, and NHCHO.

4. (currently amended) A compound according to Formula 4 or Formula 5

Formula 4

$$\begin{array}{c|c} R_1 & N & X & R' & V & R'' \\ \hline R_2 & N & R_4 & & & \\ \end{array}$$

Formula 5

wherein U is selected from CH, CR, COR, CSR, CNHR, CNRR, CNHCH₂COOH, CNHCH₂COOR, CNHCH₂CONH₂, and N;

V is N, CH, or CR;

Z is NH or O;

X is COOH, COOR, CONH₂, CONHR, CONRR, or heterocycle;

- R₁ and R₂ are independently selected from H, substituted or unsubstituted alkyl, alkenyl, alkynyl, aryl, fused aryl, heterocycle and fused heterocycle, and R₁ and R₂ together with the carbon atoms to which they are attached may form a 5- or 6-membered ring;
- R', R", R" are independently H, OH, OR, SH, SR, NH₂, NHR, NRR, NO₂, Cl, F, Br, I, CN, N₃, COR, COOH, COOR, CONH₂, CONHR, CONRR, C(=NH)NHR, CH₂CH₂COOH, OCH₂COOH, NHCONH₂, NHCHO, NHSO₂R, NHCOR, substituted or unsubstituted alkyl, alkenyl, alkynyl, aryl, fused aryl, heterocycle or fused heterocycle; and

wherein R and R₄ are independently H, <u>or</u> substituted or unsubstituted alkyl, alkenyl, alkynyl, aryl, fused aryl, heterocycle or fused heterocycle;

wherein each heterocycle is independently a 5- or 6-membered heterocyclic ring containing at least one atom of S, N, or O,

and wherein substituted groups are substituted with one or more substituents selected

from the group consisting of NH₂, OH, SH, NC, C(O)OR, aryl, alkyl, alkenyl,
alkynyl, F, Cl, Br, NHCOR, NHCONH₂, NHCSNH₂, OCH₂COOH,
OCH₂CONH₂, OCH₂CONHR, OC(Me)₂COOH, OC(Me)₂CONH₂,
NHCH₂COOH, NHCH₂CONH₂, NHSO₂R, NHSO₂CF₃, PO₃H, SO₃H,
(CH₂)₁₋₃COOH, CH=CHCOOH, O(CH₂)₁₋₄COOH, NHCOCH₂CH(OH)COOH,
CH(COOH)₂, CH(PO₃H)₂, OCH₂CH₂CH₂COOH, and NHCHO.

- 5. (previously canceled)
- 6. (currently amended) A compound according to Formula 7

$$R_1$$
 R_2
 R_3
 R_4
 R_4
 R_5
 R_6
 R_6
 R_8
 R_8

Formula 7

wherein Z is NH or O;

- R₁ and R₂ are independently selected from H, substituted or unsubstituted alkyl, alkenyl, alkynyl, aryl, fused aryl, heterocycle or fused heterocycle;
- R₃ is substituted or unsubstituted alkyl, alkenyl, alkynyl, aryl, fused aryl, heterocycle, fused heterocycle, wherein R may further optionally include a COOH group that is covalently coupled to R via zero to three atoms;
- R₅ and R₆ are either H, alkyl, or together are connected via an additional 1-4 atoms to form a substituted or unsubstituted cyclic group containing 3-6 atoms; and

wherein R and R₄ are H, substituted or unsubstituted alkyl, alkenyl, alkynyl, aryl, fused aryl, heterocycle or fused heterocycle;

- wherein each heterocycle is independently a 5- or 6-membered heterocyclic ring containing at least one atom of S, N, or O,
- and wherein substituted groups are substituted with one or more substituents selected from the group consisting of NH₂, OH, SH, NC, C(O)OR, aryl, alkyl, alkenyl, alkynyl, F, Cl, Br, NHCOR, NHCONH₂, NHCSNH₂, OCH₂COOH, OCH₂COOH, OCH₂COOH, OC(Me)₂COOH, OC(Me)₂COOH₂, NHCH₂COOH, NHCH₂COOH, NHCO₂COOH, NHSO₂R, NHSO₂CF₃, PO₃H, SO₃H, (CH₂)₁₋₃COOH, CH=CHCOOH, O(CH₂)₁₋₄COOH, NHCOCH₂CH(OH)COOH, CH(COOH)₂, CH(PO₃H)₂, OCH₂CH₂CH₂COOH, and NHCHO.
- 7. (withdrawn) A pharmaceutical composition comprising a compound according to any one of claims 1-4 and 6, or a pharmaceutically acceptable salt thereof, and a pharmaceutically acceptable carrier.
- 8. (currently amended; withdrawn) A method of treating a viral disease a hepatitis C infection, comprising administering a therapeutically effective amount of a composition according to claim 7 to a subject in need of such treatment.